

Cover Page



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# Publications

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## First author:

1. **Dvornik, A.**, Zoutendijk S. L., Hoekstra H., Kuijken K.,  
*The case for two-dimensional galaxy-galaxy lensing*,  
2019, A&A, 627, A74 (**Chapter 4**)
2. **Dvornik, A.**, Hoekstra H., Kuijken K., Schneider P., et al.,  
*Unveiling Galaxy Bias via the Halo Model, KiDS and GAMA*,  
2018, MNRAS, 479, 1240 (**Chapter 3**)
3. **Dvornik, A.**, Cacciato M., Kuijken K., Viola M., et al.,  
*A KiDS weak lensing analysis of assembly bias in GAMA galaxy groups*,  
2017, MNRAS, 468, 3251 (**Chapter 2**)

## Contributed:

1. Georgiou, C., Chisari, N. E., Fortuna, M. C., **et al.**,  
*GAMA+KiDS: Alignment of galaxies in galaxy groups and its dependence on galaxy scale*,  
2019, submitted to A&A
2. Kuijken, K., Heymans, C., **Dvornik, A.**, Hildebrandt, H., de Jong, J.T.A., Wright A.H., et al.,  
*The fourth data release of the Kilo-Degree Survey: ugri imaging and nine-band optical-IR photometry over 1000 square degrees*,  
2019, A&A, 625, A2
3. Petrillo, C. E., Tortora, C., Vernardos, G., Koopmans, L. V. E., Verdoes Kleijn, G., **et al.**,  
*LinKS: Discovering galaxy-scale strong lenses in the Kilo-Degree Survey using Convolutional Neural Networks*,  
2019, MNRAS, 484, 3879
4. Brouwer, M. M., Demchenko V., Harnois-Deraps J., **et al.**,  
*Studying galaxy troughs and ridges using Weak Gravitational Lensing with the Kilo-Degree Survey*, 2018, MNRAS, 481, 5189

5. Grootes, M. W., **Dvornik, A.**, et al, *Galaxy And Mass Assembly (GAMA): Gas Fuelling of Spiral Galaxies in the Local Universe II. – Direct Measurement of the Dependencies on Redshift and Host Halo Mass of Stellar Mass Growth in Central Disk Galaxies*,  
2018, MNRAS, 477, 1015
6. Brouwer, M. M., Visser, M. R., **Dvornik, A.**, et al.,  
*First test of Verlinde's theory of emergent gravity using weak gravitational lensing measurements*,  
2017, MNRAS, 466, 2547
7. Hildebrandt, H., Viola, M., Heymans, C., **et al.**,  
*KiDS-450: cosmological parameter constraints from tomographic weak gravitational lensing*,  
2017, MNRAS, 465, 1454
8. Brouwer, M. M., Cacciato, M., **Dvornik, A.**, et al.,  
*Dependence of GAMA galaxy halo masses on the cosmic web environment from 100 deg<sup>2</sup> of KiDS weak lensing data*,  
2016, MNRAS, 462, 4451

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# Curriculum Vitae

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I was born on the 13th of January 1990 in Maribor, Slovenia. I've spent my early childhood in the middle of the hilly parts of Slovenian Styria in Lovrenc na Pohorju and Ruše, not far from Maribor. There I started exploring nature and my surroundings with great interest. The interest in natural phenomena was further fuelled by my grandpa's workshop and my father's interests in everything connected with science and engineering. Including astronomy.

I started high school in Maribor in 2005 and there my interests in physics grew from day to day. I was always more interested in astronomy (as a more interesting part of physics) and this passion grew even more when I attended a couple of astronomy youth summer camps during those years. This culminated by enrolling to the Faculty of Mathematics and Physics at University of Ljubljana in 2009, starting my bachelor studies in physics with a focus in astronomy. The bachelor studies at the Faculty of Mathematics and Physics were quite rigorous and thorough, but because of that I know they gave me all the knowledge, experience and necessities to successfully tackle any physics and astronomy problem. I obtained a bachelor's degree in May 2013.

Due to the fact that there was no astronomy master study offered in Ljubljana, I have started looking for a programme abroad. More or less randomly I have picked Leiden as a place to apply to and got accepted. I started my masters in September of 2013. During the two years, I have first worked with Prof. Dr. Ignas Snellen and Dr. Jayne Birkby on secondary transits of exoplanets and then on modelling the stellar and gas contributions to the halo model and small scale galaxy-galaxy lensing signal with Prof. Dr. Henk Hoekstra and Dr. Marcello Cacciato, which was also my master's thesis. I have successfully defended it in August of 2015.

In 2015 I started as a PhD student under the supervision of Prof. Dr. Konrad Kuijken and Prof. Dr. Henk Hoekstra to work on Kilo Degree Survey and testing the gravity with it. As a member of the KiDS collaboration, I have contributed a halo model, helped with the massive undertaking of reducing the optical data from the VLT Survey Telescope hosting the KiDS, and actively helped with my modelling expertise to the other members of the collaboration. During my studies, I have participated in a winter school in Tonale, Italy and attended conferences at several international venues: Cairns, Australia; Santa Barbara, USA, Kingston, Canada; Leiden, The Netherlands. I have presented my work at different colloquia in Ljubljana, Toronto, Waterloo, Davies, Berkeley, Santa Cruz, Stanford and at regular KiDS collaboration meetings in Leiden and Edinburgh.

This autumn I will continue with my scientific work in the newly established German Centre for Cosmological Lensing headed by Prof. Dr. Catherine Heymans and Prof. Dr. Hendrik Hildebrandt in Bochum, Germany.



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Furthermore, I would like to thank all the collaborators I got to work with during my PhD. Without you, the whole journey would be impossible. Thank you for the amazing data products, independent insights, ideas, and suggestions. Thank you, Catherine, Hendrik, Edo, Reiko, Alexandra, Angus, and all other KiDS and Astro-WISE people. Our meetings were all much fun, and I look forward working closely with you in the coming years.

I am grateful to have met David and Clément during my PhD for being there to complain about things and enjoy the Friday borrels together. For all the dinners and drinks either at Lemmy’s or at Bonte Koe (together with Fabian and Emanuele) and for the search of the proper ‘Fée Verte’ in Leiden. I hope we will be able to join in the life path in the near future and continue our discussions around a nice drink.

This brings me to Emanuele. Thank you for being there in all ups and downs I had during those 6 years in Leiden. Thank you for sticking around also after you left the observatory and for all the lunches at Mauro’s. Thank you, Tiago, for the amazing friendship that grew out of unsuspected office share that started your path as a postdoc in Leiden. We will all continue our ramblings about life, Universe and everything else.



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I am lucky that during my stay in Leiden I have managed to share an apartment with really awesome people. Thank you Iva and Łukasz for being awesome room-mates and even more awesome friends! Let that last!

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